

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Metal Craft Machine & Engineering

Enterprise Minnesota

Lean Training Improves Office, Line Performance at Metal Craft

Client Profile:

Metal Craft Machine & Engineering of Elk River, Minnesota is a family-owned and operated custom-manufacturer of parts for medical and technology companies, with expertise in manufacturing parts for orthopedic uses. The company offers a variety of machining and engineering services, including CNC and manual turning, Swiss-type machining, gun drilling, honing, wire EDM, hole popping, finishing, heat treating, laser marking, passivation and Inspection. In 1996, Metal Craft acquired Riverside Machining & Engineering in Chippewa Falls, Wisconsin, which manufactures parts for the medical, computer and aerospace industries. Together, the companies employ 140 people.

Situation:

As a custom manufacturer, Metal Craft employees work on many different jobs in a week. Most of the jobs are small orders, from one custom part up to 200. The company's parts library includes more than 600 individual parts. Employees need to shift from one operation to another quickly and efficiently. Processing orders and ensuring that orders move through the manufacturing floor expeditiously is a goal for the company. In 2006, the company received funding from the City of Elk River to take advantage of lean training and lean implementation programs from Enterprise Minnesota, a NIST MEP network affiliate, formerly known as Minnesota Technology Inc.

Solution:

Enterprise Minnesota conducted Lean 101 training and several Lean projects were initiated on the shop floor and in the office. One project involved a Value Stream Map (VSM) of the order processing area. The map showed processing an order required seven distinct steps, and following all of them sometimes took as much as three weeks from the time the order was placed to it reaching the manufacturing floor. To improve work flow, steps in the ordering process were adjusted and rearranged; the amount of time an order was held in any step was reduced to less than a day. As a result, orders typically reach the floor in a week or less, a significant improvement in customer service. Another lean project was implemented in Metal Craft's inspection department. The Lean project team discovered that inspection employees were sometimes overwhelmed with work, and products could sit in the queue waiting to be inspected for two or three days. Cross-training employees from other areas increased the number of people able to conduct inspections and reduced the amount of time parts remain in the inspection area. The company's goal is to have no part wait in the queue more than six hours.

A third project was aimed at reducing set-up time. The company formed a set-up reduction committee, which developed lists of all of the parts needed for any job. The parts checklist allows employees to gather parts for the next job while they are running another project. The effort has reduced bottlenecks, improved work flow, and reduced queue times.

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Results:

- * Reduced processing time from 3 weeks to 1 day.
- * Reduced time spent in inspections area from 3 days to 6 hours.
- * Reduced set-up time.

Testimonial:

"We've all been very satisfied with the training and services from Enterprise Minnesota. The consultants were very professional, very courteous, and very knowledgeable."

Jack Mowrey, President